



February  
2016

The Surrey Amateur Radio Club

# Communicator

*Renewing and Repairing  
Beam Antennas at VE7IO*



The Newsletter of the Surrey Amateur Radio Club

February 2016



## At The Last Meeting...

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#### IN THIS ISSUE

click on the page number below

Last Meeting	2
The Contest Contender	4
Radio-Active	10
QRM	12
News You Can Lose	13
Back To Basics	14
Satellite Specialty Group	15
Ham News	16
Ham Radio Hacks	18
Shoestring SDR	21

## At The January 13, 2016 Meeting...

There were 26 members in attendance.

The meeting was called to order by Al Peterson VA7ALZ at 7:05 pm. Al welcomed guests attending from other clubs.

#### Announcements

Safety vests are still available for \$7 on their own or \$10 with a club patch.

#### Basic Licensing Class coming up

Starting March 29th, 2016 Location yet to be determined (*Surrey Fire Training Centre on 64th Avenue now confirmed - Ed.*). The course will run for 8 weeks. It is a Basic Ham class, fee \$100 includes Book. A 20-30% discount will be offered for family of club members. The fee includes a membership with SARC. There is an antenna building workshop also being planned towards the end of the course.

#### Financial Report

No Financial Report today Scott Hawrelak VE7HA is absent.

#### Repeater Update from Mike Plant VE7AT

Our 220 MHz repeater is working well. Mike tabled a motion to accept Dave Cameron's bid of \$400 to install a Raspberry Pi (controller) and IRLP Node on the 220 MHz repeater. The motion was passed.

#### Membership Report

Robert Fishwick VA7FMR reports the club is near 80 members today.

#### Website Report

Howard Ticzon VA7HTZ reports that the website is running well. Some updates were made for SEPAR and the buy & sell page.

#### SEPAR

SEPAR Board member Stan Williams VA7NF Reports no update as there is limited activity at this time.

#### Fox Hunt and BBQ

The annual fox hunt and BBQ dates being considered are May 14 or May 28<sup>th</sup>. [Anton VE7SSD](#) would like members to help with the prep and planning, please contact him if you're interested. Further discussions will be held at the next executive meeting.

#### Field Day

Time to start thinking about Field Day it's the last weekend in June the 25-26th with setup on Friday.

If you're interested in being our Field Day coordinator, the position is open at this time.

#### CW Course

Keith Witney VE7KW (North Shore Club)

Keith is looking at putting together a CW Course and gauging interest at this time. The course would possibly consist of 3 Saturday mornings. The alphabet would be covered on the 1<sup>st</sup> Saturday, sending would be covered on 2<sup>nd</sup> Saturday, and speed on the 3<sup>rd</sup> Saturday.

#### Club House

No update this meeting

#### Feature Presentation on 80m Fox Hunting Receivers

Presenters: Keith Witney VE7KW, Les Tocko VA7OM, and Amel Krdzalic VA7KBA

Slide deck for this presentation can be found here:

<http://nsarc.ca/hf/foxhunt0116.pdf>

RDF (Radio Direction Finding) has been useful for navigation and military



applications since the early 1900's. ARDF (Amateur Radio Direction Finding) can be used for locating interference, outdoor exercise, and as an introduction to Amateur Radio for non-hams.

Traditional ARDF foxes (transmitters) are on for 1 minute each in sequence taking up to 5mins for 1 cycle if using 5 foxes. Since all 5 foxes are on the same frequency and transmitting their identity by slow speed Morse, you only have 1 minute to take directional bearings, then must wait 4 minutes and repeat until you find the fox. 2m Foxhunting has been very popular partially due to the large number of receivers available and easy to build directional antennas. Fox hunting is also very popular overseas in many schools and colleges.



To improve the sport as well as promote it locally, some improvements to the format have been made to reduce the frustration for new fox hunters. 80m is chosen instead of 20m and a faster sprint cycle is used by the foxes. This means less time waiting for

desired signals. 80m is favoured due to less propagation effects compared with 2m.

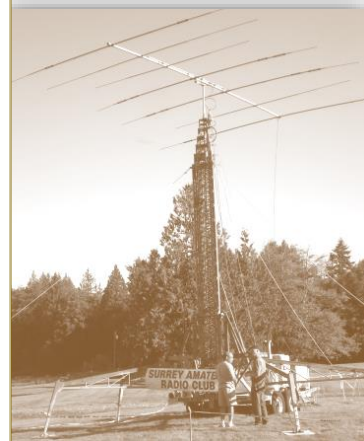
Les Tocko VA7OM with assistance from Joe Young, Nick Massey, Dave Miller and Chris Scholefield, have designed a custom receiver and 80m transmitter. These are being offered in kit form for \$90 for the receiver \$10 for the transmitter and a \$25 for the assembly course. You can contact Keith Witney VE7KW at [VE7MID@telus.net](mailto:VE7MID@telus.net) to reserve your parts.

For more information:

- [Presentation photos](#)
- IARU <http://www.ardf-r1.org/>
- BC Radio Sport <http://ardf.ca>
- 2m Antennas [http://theleggios.net/wb2hol/projects/rd/tape\\_bm.htm](http://theleggios.net/wb2hol/projects/rd/tape_bm.htm)
- Attenuators [http://www.homingin.com/joek0ov/off\\_atten.html](http://www.homingin.com/joek0ov/off_atten.html)
- 80m Receivers [http://www.geocities.jp/chn\\_ardf/index.htm](http://www.geocities.jp/chn_ardf/index.htm)

Meeting Adjourned at 8:40pm

~ Minutes prepared by Jeremy Morse VE7TMY



The **SARC Communicator** is published monthly except July and August for members of the Surrey Amateur Radio Club.

To subscribe, unsubscribe or change your address for e-mail delivery of this newsletter, notify **SARCcommunicator@outlook.com**

Non-members living in the Greater Vancouver area may receive one trial issue.

Beyond our membership area, annual Communicator subscriptions are available for a \$5 donation towards our Field Day fund.

SARC maintains a website at **[www.ve7sar.net](http://www.ve7sar.net)** that includes club history, meetings, news, photos and other information.

### Kalmar Koffee Klatch Reminder



The SARC Weekly Koffee Klatch is on Saturday at the Kalmar Restaurant at 80th and King George Hwy in Surrey at 9:00 am. Bring your significant other, bring your family, see old friends and have fun.

### On The Cover...

Fred Orsetti VE7IO is a long time SARC member and a very experienced contester. He has 'Elmered' many club members, your Editor included, to become capable contesters. Fred's station is top notch and in this month's feature story, starting on page 4, he presents a very complete account of his recent antenna maintenance and upgrade.



February 2016



## The Contest Contender

Fred Orsetti VE7IO

### *Renewing and Repairing Beam Antennas at VE7IO*

*Taking any beam down requires careful handling of the antenna once it has been taken off the mast. There is a danger in getting the elements caught in the tower structure or worse, dropping the antenna.*

The station at VE7IO consists of two operating positions with antenna switching that allows either radio to use any of the four antennas. Beam antennas consist of one 64' tower with a Mosley CL-33 tri-band antenna, and a 56' tower supporting a 3 element SteppIR with a 30/40 meter add on. The SteppIR will tune all the WARC bands as well as 40 meters. The wire antennas, our property is 1.5 acres in Surrey with an abundance of 100+ ft trees to support the 80 meter and 40 meter dipoles. On occasion, I have put up a 6 meter dipole for contest multipliers.

Each radio position has a legal limit amplifier and a computer. The computers are interfaced to each radio using Micorham Keyer II's. The computers are also networked to a third station management computer. Contest software is N1MM+ and N3FJP software is used for general logging. Propagation software, reporting software and Athena software run on the management computer. Athena is a station monitoring software which tracks the active contest performance and compares it to the same previous contest. Graphs are produced on the management computer in real time allowing for performance evaluation.

### **Maintaining the SteppIR and Mosley CL-33**

After forty years of hamming from my QTH it was time to do some antenna maintenance. In all fairness the SteppIR has only been on the air for less than 5 years but the Mosley tri-band has done over 40 years of service. This antenna project is at least one year overdue as it was on the 'to do' list last summer but did not quite make it to the top before the contest season began.

### **The SteppIR**

The work on the SteppIR was primarily maintenance with a couple of updates from SteppIR to install. The tri-band was a different story. By far the SteppIR was the easiest to take down so it was first. The team was Ian, VE7HHS, Phil, VE7KJR, Ken, VE7BC, Al, VE7CDC, Stan, VA7NF and myself. The date was Saturday July 18<sup>th</sup> and the weather was perfect.

As I do not climb towers any longer it was decided that we would need a man lift for the job. My neighbor, who owns a roofing company offered his 65 ft crane truck complete with operator. How many hams have neighbors that want to help with antenna work! Saving \$500.00 on renting a lift was just too hard to pass up, so I decided to take him up on his offer! The crane truck worked well and the operator was very experienced. However, without a proper man platform, from which to work, the take down and re-install of the SteppIR a bit tricky. The setup on the crane truck was to use the forks with a pallet of shingles for weight, then attach the safety harness to the main lift. It worked but the forks and pallet setup was less than ideal.



VE7HHS on the platform. Apparently in the roofing business they do this all the time.



Ian decided to work alone on the platform as the antenna could be removed and brought down by one person. This was not the case when we put it back up.

So with all the safety harnesses attached and tool bag on board the operator moved the lift towards the antenna.

Taking any beam down requires careful handling of the antenna once it has been taken off the mast. There is a danger in getting the elements caught in the tower structure or worse, dropping the antenna. Using the crane and platform made handling of the antenna much more difficult to control, as there was no framework on which the antenna could be supported. It was attached to the lift by a sling and kept in place only by the person on the platform.

The beam was now off the mast and strapped to the framework of the crane and in this way Ian could guide the antenna as the crane operator lowered the platform.

Maintenance on the SteppIR included replacement of the sweep ends on the driven element with updated units from SteppIR, rewiring the element housing units (EHU), recoating the elements, adding vent screens to the EHU's and inspecting the stepper motors (*photos page 6*).

The first job was to open each EHU and inspect the stepper motors and tapes. I was very pleased when I discovered that each unit was in pristine condition with no signs of moisture or wear on the tapes. Clearly no work was needed on the EHU motors. Note that operating here at VE7IO is mostly high power, +1 KW.

Even though the EHU's were in excellent condition, I wanted to modify them by installing small vent screens in the mounting plates of the EHU's as recommended by SteppIR. This was done

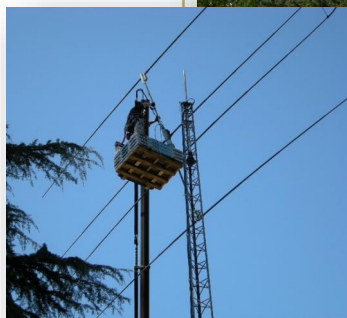


*VE7HHS nearing the antenna for removal*



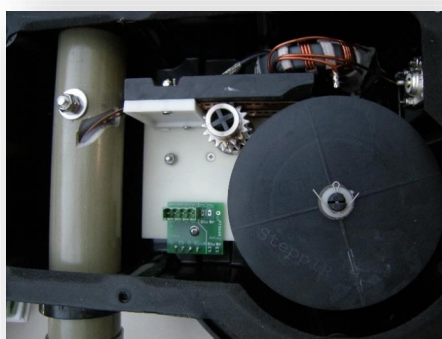
*The antenna is taken off the mast. These photos show the antenna being lowered to the ground. You will notice that Ian has to steer the antenna as it is supported by a rope attached to the crane.*

*You will notice the difference using a proper man lift in handling the antenna when we get to the Tri-band maintenance.*





February 2016

*The SteppIR safely down**(Top) Inside the driven element EHU**(Right) The tape**(Left) Vent screen outside view EHU base plate**(Right) Vent screen inside view EHU base plate*

using information from SteppIR and the help of a local machine shop.

For recoating the elements I used "Krylon" Fusion Spray paint for plastic, Hunter Green which is very durable and closely matches the original color. There were a few small spots on the fiberglass element tubes where the gel coat had worn off, but this was easily replaced using fiberglass resin from Canadian Tire. John White, VA7JW, had written a very good article on maintaining a SteppIR antenna so I was able to get good information from John's work.

Once I had the element tubes refinished, and the sweeps installed on the driven element, I was ready to reassemble the antenna. The first job was to mount the EHU's back onto the boom, rewire and then test each unit. SteppIR provides well written testing procedures for the EHU's allowing for each stepper motor to be tested in the shop. This is where I ran into my first problem, which was one entirely of my own doing. When rewiring the driven element EHU I misread the color coding on the circuit board and ended up with all the tape being spilled out onto the garage floor! Not good! After reading the instructions I managed to get the tape back into the unit OK but was there any damage done? A phone call to SteppIR confirmed that I needed to send the unit in for inspection, which I did. The unit arrived at SteppIR on a Tuesday and they called me immediately to let me know it had arrived. They called again on Friday to tell me that I had wired the cable incorrectly but there was no damage done and they would send it back. I had it on Saturday, which was a turnaround time less than one week. Much to my surprise, when I opened the box they had sent me a new unit at no charge! Now that's service! With the new unit installed and tested, I reassembled the antenna, and it was ready to be put back on the tower.

### Reinstalling the SteppIR

The reinstallation date was Saturday September 5<sup>th</sup>. We used the same crane truck as before, saved another \$500.00, and this time Carlos, VA7CFK, came with Ian, VE7HHS, and Phil, VE7KJR. Ken, VE7BC, was not able to make it but Al, VE7CDC, and Stan, VA7NF were here.

Carlos and Ian have done a lot of work with lifts, towers and antennas and their experience was needed for this project. Using the pallet and crane presented a challenge. The SteppIR mount is inside the 'trombone' element requiring



the antenna's driven element to be slipped over the mast, which was not simple! However, after a couple of tries they got the antenna in position and secured it to the mast.

Once the antenna was mounted on the mast final adjustments were made to positioning the antenna to magnetic north. Testing after the antenna was back on the tower showed excellent SWR on all bands.

One change I made to the installation this time was to add a common mode choke balun to the coax at the antenna connection. While SteppIR provides a balun inside the EHU, it is a voltage balun

which does not suppress the current on the outside of the coax shield. The Palomar model BA-8 from Palomar Engineers uses 5 beads and is secured to the coax with heat shrink. For my installation the BA-8 is used as a "line isolator" to prevent current flow from induced RF fields (the antenna).

After getting the antenna back on the tower, I have had a chance to use it in a couple of contests with excellent results. While the antenna was working well before the maintenance procedure it is now performing much better, likely due to the addition of the common mode choke and the new driven EHU.

*The three photos above show the final ground preparation and lifting the SteppIR back onto the tower. We used the same crane to reinstall the antenna as we had used to take it down. This time we had two people on the lift.*

## The Tri-band Repair and Maintenance

The SteppIR antenna was working well before I decided to take it down for maintenance, but this was not the case with the Mosley CL-33 Tri-band.

The CL-33 had been in use at VE7IO for over 40 years and had only been taken down for cleaning once during that time. This antenna has been used with full power for many contests and DXing over the years, and it has been an outstanding performer. The CL-33 can be set up for operation on SSB or CW using only two positions for the element adjustments.



When the antenna went up 40 years ago it was set up for SSB operation and while the SWR in the SSB portion of the bands was excellent the SWR in the CW portion of the bands was somewhere around 2:1, which was usable but not ideal.

Recently something went wrong, near the end of last year's contest season. In April/May, the antenna SWR changed, and now the SSB portion of the bands had high SWR and the CW portion of the bands had lower SWR, so obviously I needed to look into this. Even though we were getting into the fall season and unfavorable weather conditions for antenna work, I knew I had to get this antenna fixed if I wanted to enjoy the 2015-2016 contest season.

*The CL-33 had been in use at VE7IO for over 40 years*



February 2016



*"Positioning the lift in front of the garage and reaching up to the beam worked very well..."*



To begin with I needed to contact Mosley to see if parts were available for a 40 year old beam, and much to my surprise, they were! I had to consider replacement parts or a new antenna. After talking with Mosley on the telephone I opted for replacement traps, which was the right decision. The CL-33 antenna is still available and can be modified to operate on the WARC bands, but I did not do this mod as I have the WARC bands on the SteppIR.

I ordered a trap replacement kit from Mosley, which included all six traps and a common mode choke from Palomar Engineering, all of which arrived by November 12<sup>th</sup>. I scheduled the antenna work and lift rental for Saturday November 14<sup>th</sup>. The next possible issue was the weather which I watched very closely. There was a large storm that week but the forecasters predicted the high winds and heavy rain to be over by the weekend, and they were right. We were a 'go' for Saturday November 14<sup>th</sup>.

The Tri-band antenna is at 65 ft and can only be reached by using a lift up and over the garage from the driveway. The reach distance was 74 ft. so an 80 ft Genie man-lift was required. Star rentals delivered the lift on Friday morning and we had the use of it until Monday morning. The crew, which was the same team as we had for the SteppIR, were scheduled for 9:30am Saturday morning. Ian, VE7HHS, took the lead position and organized the take down and reinstall.

Positioning the lift in front of the garage and reaching up to the beam worked very well, Ian was able to park the platform 1 inch from the tower, making removal of the beam safe and easy.

The beam was on the ground within 45 minutes (*photos left*) and I was amazed at its condition, no corrosion, and just a bit of green moss, which cleaned up easily with a pressure washer (*photo below*). Removal of the traps from the elements was a snap as there was no corrosion and the parts slipped apart easily. Clearly, the reason

for everything coming apart easily was due to applying a good coating of Penetrox compound when the beam was assembled 40 years ago. In addition to removing the traps we needed to lengthen the elements to the CW positions, and again this was easily done. Each element has two holes for the set screws, one for SSB and one for CW. The difference in length is approximately 10 inches, and each trap has pre-drilled holes for the set screws. The elements and mounting hardware were in very good condition so re-assembly was straight forward. As with the SteppIR I installed a Palomar Engineering common mode choke on the coax at the feed point. Once the elements were repositioned we placed it onto the lift platform and took it up about 20 ft for testing.

We set up my grab and go kit in the garage to measure SWR on the antenna. It looked great! It was now time to put it back on the tower. The time was around 3:00pm.

Carlos and Phil would take the antenna back to the top of the tower, bolt it to the mast, connect the new coax jumper to the hardline and reset the rotator to magnetic north. All this was completed within one hour.

OK, we had the machine and some daylight left what else could we do? It was decided to trim some branches from the trees along the driveway, install a rope on the south tower and try to clear the 80 meter dipole from a tree branch. By time we had completed these tasks it was dark, 5:00pm.







*We set up my grab and go kit in the garage to measure SWR on the antenna.*



Everyone was very pleased with the amount of work that had been completed in one day, but no one was happier than me, VE7IO. With the help of Ian, Carlos, Phil, Al, Ken and Stan my two beams are now back to full operating capacity and ready for the contest season.

Both companies, SteppIR and Mosley were very supportive in providing parts and instructions enabling me to complete these upgrades.

Thanks to Ian, Carlos, Phil, Al, Stan and Ken for volunteering their valuable time and skills to complete the beam antenna maintenance at VE7IO.

73

~ Fred VE7IO



*(Left to Right) Phil, VE7KJR, Carlos, VA7CFK, Ian, VE7HHS, Stan, VA7NF, Al VE7CDC*



February 2016



## Radio-Active

Jinty Reid VA7JMR



**Mike Zavarukhin  
VE7ACN**

Bikin is a town in Khabarovsk Krai, in Far Eastern Russia, located on the Bikin River. It was here in 1964 that Mikhail Zavarukhin was born. Of course we all know him as Mike. He was the eldest of two children and his younger sister still lives in Russia. Mike obtained 2 degrees at universities in Russia. One was in electronic engineering and the other in agriculture. When Mike was only 12 years of age he became interested in amateur radio by reading books about it and playing around with electronics. It was not until 1982 that he obtained his Russian amateur radio license. When he was 19 years of age Mike attended an ARRL CW contest call sign UKOCAA club station, 80 metre band, left for the use of "newbees" as there was nothing to do there for older fellows. Mike took everyone by surprise at the high level he obtained, especially as he was so young. He became the star of the day. From then on he was adopted into the contesting team. Mike commented that he was spoiled in contesting as he got to use really good stations. Mike still keeps his RW0CN Russian call sign. In 1989 he also got the US Extra Class license and still has a valid AA7CH call sign. In 1993 when Mike was 29 years old he visited Canada where he stayed with Rick Williams VE7ASR/VE7TK for 2 weeks while participating in the Friendship Radio Games.

Zealand, Australia and Canada. In applying to New Zealand as a skilled employee Mike had to take an English Competency exam which he failed. This only made him more determined to improve his English skills so he went back to school for an intense 5 weeks course in English while investigating other options of immigration. He connected with a fellow Russian living in Canada, to explore setting up a business together and eventually decided to establish Anytime Fitness in Surrey, Canada. After submitting a business plan to Canadian Immigration it was accepted and Mike immigrated to Burnaby, B.C. in January 2012.

Mike now owns 2 Anytime Fitness businesses in Surrey, although he lives in Burnaby which he finds more central. He is a permanent resident in



Canada but 5 months in every year he spends in Russia at his farm looking after his business interests and of course checking in at his Russian radio shack. Mike owns a fruit tree farm and retail gardening centres in Russia and when he is not there has staff that look after it for him.



*Mike and Natasha*

In 1986 Mike married and he and his wife had 2 daughters; one who is 27 years old and lives in Russia and the other one who is 21 years of age lives in Canada. His first radio was of UW3DI design. In 2005, Mike divorced, and in 2009 he married Natasha who had 2 sons of her own. The sons are now 20 and 27 years of age and live in Russia. Mike and Natasha honeymooned in New Zealand where they visited relatives. These relatives encouraged Mike to immigrate to New Zealand. Mike investigated immigrating to New

Before the collapse of the Soviet Union, the contesting station Mike used had huge Yagi antennas; 40, 20, 15 and 10, good power radios and antennas. In 1998 the station was destroyed by vandals so the location was closed. All the equipment was moved to Mike's farm. Over the next 7 years another competitor's club station was shut down and fellow Hams brought their equipment to Mike's farm, 70 km from Khabarovsk. Eventually they all got together to create a superstation. By the end of 2008 with the help of; RW0CF, RW0CR, UA0CA, UA0CDX, UA0CO and a number of others he had huge antennas



running and by the end of 2009 he had built a really good radio shack. The station is still up and running and is known as RTOC multi-op in major contests. When he came to Canada he connected with VE7TK Rick and through Rick he also connected with VE7XS, Bill Gipps and then Jim Smith, finally joining SARC. Mike also enjoys contesting with VE7UF, Duane at his multi-op station in Courtney on Vancouver Island. Mike's present radio is an FT 1000MP.

John Brodie, who for many years was the SARC President, stated that, "I first heard of Mike Zavarukhin a few years ago when a ham on Vancouver Island reported that his friend "Mike" RW0CN was emigrating from Russia to the Vancouver area and should be welcomed". Shortly thereafter, John was at Bill VE7XS's project with Rob VE7CZV, to participate in the BC QSO party contest and it was there that he met Mike. "He exuded friendliness and so he immediately made a positive impression on me" John invited Mike to join SARC. John went on to say "Mike is more than just a congenial colleague - he is a CW ace. We call him our 'secret weapon' on Field Day as he can knock off contacts in Morse code faster than you can write them down. Every year since that first Field Day, he has joined the SARC team effort and been one of the key participants. About a year later, we encouraged him to give a presentation about his former farm in Russia and his radio setup there. I'll never forget hearing about his massive antennas at the farm, including a 160 meter vertical which he and his friends erected, and the innovative rotator for his beam antenna which, if I recall correctly, was constructed from some WW II surplus military gear"

When asked about other countries he has visited, Mike stated that he has been to Curacao 3 times, South Korea and Japan. Looking ahead to the future, Mike hopes to purchase a 10 acre or more property on the Gulf Islands and build a superstation. He dreams of having the ability to remote control his Russian station from Canada.

At present Mike's wife, Natasha is studying English at school. By profession she is an accountant but plans on pursuing other options once she has improved her English. Eventually, Mike will let go his Russian business. He is an invaluable member in SARC where he is a rich resource.

- Jinty Reid VA7JMR



*Mike's Russian station*



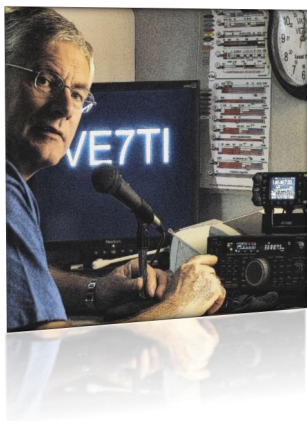
*Mike Ice fishing in Russia when he's not contesting.*



*Location of Khabarovsk Krai*



February 2016



## QRM

...from the Editor's Shack

*Do you have a photo or bit of club news to share?  
An Interesting link?*

*Something to sell or something you are looking for?  
eMail it to [SARCcommunicator@outlook.com](mailto:SARCcommunicator@outlook.com) for inclusion in this column.*

## SARC Clubhouse Project

### Exciting Late Breaking News...

Just two short weeks after John Brodie and I met with City Hall, we have a commitment for a facility with two radio rooms, one gathering room, kitchen and washroom access. We have FREE rent, Internet, heat, parking for trailers and a place to raise a tower, space for a storage container plus ample parking. We have permission for wires into the trees, 24/7 security patrols and a restaurant close by at the courthouse for breakfast and coffee meetings!! There is wheel chair access in the basement at the old City by-law offices (North Annex) at #10 Hwy and King Geo Blvd. We should continue to hold our monthly meeting at the PREOC and classes at the fire training centre, but they could also eventually work at the new clubhouse. I will sign the occupancy agreement with the City of Surrey next week. Today JB and I met with City officials for a site inspection, shaken hands, and were told that we have a done deal.

We can now begin to organize and initiate our fund raising drive to equip this project. As you all know we started a seed fund account with \$2,000 last year. We will need much more than this amount to accomplish our goals and welcome any suggestions on fund raising projects from you.

We must also take this time to inventory and review club owned radio related equipment to better plan our various operating stations. If you have a club item on loan we will ask you to return it at a regular meeting for evaluation. In most cases, if the equipment is in use, you may be able to continue borrowing the equipment until it's needed at the project or by another member. Stay tuned for more information.

~ Mike



## At The Last SARC Meeting...



*Al Peterson  
introducing the  
speakers on the  
80m FoxHunt  
gear.*

*Les Tocko,  
VA7OM prepares  
the 80m fox  
hunting receiver  
using a small  
speaker for  
demonstration*



*Keith Witney,  
VE7KW discusses  
80m Fox hunting  
receivers and  
its advantages*

*Amel Krdzalic,  
VA7KBA promotes  
the construction of  
the 80m Fox  
hunting receivers*



*Thank you Amel,  
Les, and Keith  
for the  
informative  
presentation*





## Page 13—News You Can Lose

### The Lighter Side of Amateur Radio

#### NRRL Promotes Hot, Fresh Idea

By WBØRUR, on the scene

NEWINGSTEAD, VERMONT - In a media briefing today held at the organization's headquarters, the National Radio Retransmission Legion (NRRL) announced a year-long operating event for ham radio operators wanting to add "flavor" to their operating habits.

"The National Pizza Ovens On the Air event (NPOOTA) will begin immediately and run through this calendar year," says legion president Ray Fergie, dabbing a spot of pizza sauce and parmesan cheese from his bolo tie.

"We hope to foster a unique radio experience for our members, while promoting the American values embodied in a good deep dish, stuffed crust, bacon laden 3-cheese pizza prepared by your favorite local pizzeria."

Portable station NPOOTA activators are asked to post upcoming activations on the NPOOTA home page. Throughout the year, both activators and chasers will be tallied on a leaderboard which includes total stations worked and total calories consumed.

Although details are still being finalized, the NRRL released the following list of FAQs:

Q: Can I operate from the parking lot of my local pizzeria?

A: *To be considered a valid NPOOTA activation, the transmitting antenna must be located with 10 feet of the pizza oven.*

Q: Can the "10 feet" rule be interpreted as positioned ABOVE the pizza oven?

A: *If you can get permission to operate a portable station on the roof, then "yes."*

Q: What modes are considered "authorized" for this event?

A: *CW, SSB, Digital and All You Can Eat*

Q: Do I need documentation to prove my activation?

A: *The NRRL will conduct random audits throughout the year. A photo of the radio operator and pizza cook will be required.*

Q: Since I am on a diet, is it possible to activate only the salad bar portion of the pizzeria?

A: *We hope to implement Salad Bars on the Air (SBOTA) later this year.*

Q: Can I operate from the parking lot of my local pizzeria?

A: *To be considered a valid NPOOTA activation, the transmitting antenna must be located with 10 feet of the pizza oven.*

~ Ham Hijinks



*Some Hams will try anything to fine-tune their HF Beam. Here we see a ham and five assistants trying to find the ideal spacing for their 6-element HF Yagi antenna.*



February 2016



## Back to Basics

John Schouten VE7TI

### *From The Basic Question Bank*

#### ***SARC Is Planning A Basic Course***

If you know of someone looking to take the Basic qualification course to obtain their Amateur Radio license, we are offering a comprehensive 8-week course starting Tuesday March 29 and will be held at the Surrey Fire Training Center on 64th Avenue.

#### **Question B-002-006-001** **What are "RST" signal reports?**

There are several questions in the Basic Question Bank that refer to the RST system so it is prudent to familiarize yourself with it.

The RST system is used by amateur radio operators, shortwave listeners, and other radio hobbyists to exchange information about the quality of a radio signal being received. The code is a three digit number, with one digit each for conveying an assessment of the signal's readability, strength, and tone. The code was developed in the 1934 by Amateur radio operator Arthur W. Braaten, W2BSR

The **R** stands for "Readability". Readability is a qualitative assessment of how easy or difficult it is to correctly copy the information being sent during the transmission. In a Morse code telegraphy transmission, readability refers to how easy or difficult it is to distinguish each of the characters in the text of the message being sent; in a voice transmission, readability refers to how easy or difficult it is for each spoken word to be understood correctly. Readability is measured on a scale of 1 to 5.

1. Unreadable
2. Barely readable, occasional words distinguishable
3. Readable with considerable difficulty
4. Readable with practically no difficulty
5. Perfectly readable

The **S** stands for "Strength". Strength is an assessment of how powerful the received signal is at the receiving location. Although an accurate signal strength meter can determine a quantitative value for signal strength, in practice this portion of the RST code is a qualitative assessment, often made based on the S meter of the radio receiver at the location of signal reception. "Strength" is measured on a scale of 1 to 9.

1. Faint signal, barely perceptible
2. Very weak

3. Weak
4. Fair
5. Fairly good
6. Good
7. Moderately strong
8. Strong
9. Very strong signals

For a quantitative assessment, quality HF receivers are calibrated so that S9 on the S-meter corresponds to a signal of 50  $\mu$ V at the antenna standard terminal impedance 50 ohms. One "S" difference should correspond to 6 dB at signal strength. On VHF and UHF receivers used for weak signal communications, S9 often corresponds to 5  $\mu$ V at the antenna terminal 50 ohms. Amateur radio operators may also use a signal strength of "20 to 60 over 9", or "+20 to +60 over 9." This is in reference to a signal that exceeds S9 on a signal meter on a HF receiver.

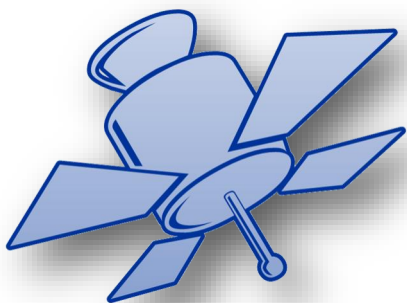
The **T** stands for "Tone". Tone is only used in Morse code and digital transmissions and is therefore omitted during voice operations.

1. Sixty cycle AC (alternating current) or less, very rough and broad
2. Very rough AC, very harsh and broad
3. Rough AC tone, rectified but not filtered
4. Rough note, some trace of filtering
5. Filtered rectified AC but strongly ripple-modulated
6. Filtered tone, definite trace of ripple modulation
7. Near pure tone, trace of ripple modulation
8. Near perfect tone, slight trace of modulation
9. Perfect tone, no trace of ripple or modulation of any kind

The correct answer to this question therefore is "A short way to describe signal reception"

~ John VE7TI





## Satellite Specialty Group

John Schouten VE7TI

### *Geosynchronous Orbit Ham Satellite*

BLACKSBURG, Va.,

Researchers at the Ted and Karyn Hume Center for National Security and Technology are preparing to send an amateur radio transponder into a geosynchronous orbit in 2017.

"Seven days a week, 24 hours a day, 365 days a year, a new ham band will be available for the Americas," said Robert McGwier, a research professor in the Bradley Department of Electrical and Computer Engineering and the Hume Center's director of research. "It will allow rapid deployment to disaster areas and support long-haul communications for first responders."

This would be the first amateur or "ham" radio payload in a geosynchronous orbit, and would significantly enhance communications capabilities for amateur radio operators, in particular following natural disasters or other emergency situations. The Hume Center team met with Federal Emergency Management Agency Administrator Craig Fugate in September to discuss the project.

There are more than 2 million amateur radio operators around the world, and the community has a long history of assisting with emergency communications when traditional communications networks collapse, because they typically rely on cell towers and the Internet. Ham radio signals require only compact, mobile equipment that can be easily transported to an emergency site.

"Hams show up at every disaster, no matter what," said McGwier, referring to amateur radio operators. After events like Hurricane Katrina and the Indian Ocean tsunami, "for

days, the only way that people communicated out of those communities was amateur radio."

In fact, the Federal Emergency Management Agency signed an agreement in 2014 with the American Radio Relay League, also known as ARRL, that describes how the two organizations will work together to provide disaster relief, and the Federal Communications Commission has specific regulations authorizing the use of amateur radio in situations which threaten life or property.

But even amateur radio isn't always available.

Currently, most amateur radio operators communicate by bouncing their signals off the ionosphere. Solar flares, geomagnetic storms, and other events that change the condition of the ionosphere can affect the efficiency of radio signal propagation, making it unpredictable.

Sending radio signals to a satellite, instead, would be much more dependable, allowing radio operators to help emergency personnel reliably access supplies, logistical support, and medical assistance. The key is to ensure that the satellite would always be accessible to the radio operators — which is why the geosynchronous orbit is critical.

A geosynchronous orbit has the same period as the Earth's rotation — just under 24 hours. A satellite in such an orbit is easy to locate and access. In this case, the satellite will always be within a band of longitudes over the Americas, continually accessible to any amateur radio operator there, including the students and researchers at the Virginia Tech Ground Station.

—Virginia Tech Hume Center



*"Seven days a week,  
24 hours a day, 365  
days a year, a new  
ham band will be  
available for the  
Americas"*

February 2016



## Amateur Radio: Who ya gonna call? Surrey hams!

A recent article in the Surrey Now Newspaper highlights our capabilities

If you felt the recent earthquake that hit British Columbia you may have pondered the aftermath of a large disaster. Technology, as we know it, would likely be rendered useless.

The Now newspaper reports:

“Our phones no more useful than paperweights. Our televisions and computers worthless without energy to power them.

Enter amateur radio.

Hams, as amateur radio operators are nicknamed, are often called on to help with emergency communications during disasters around the world when all other communications fail.

We're in pretty good shape should we ever need to call on our Surrey Hams. The club placed first in Canada and second in North America in their category in the annual North American Field Day last year.”

The newspaper interviewed John Brodie VA7XB, who got his amateur licence at the age of 15, “Whenever there's a disaster around the world, amateur radio operators are often involved,” he explained.

Read the full story and watch the video at <http://www.thenownewspaper.com/news/365486231.html>



## RAC 2015 Canada Day Contest Results

Congratulations to everyone, we took first place in the 2015 Canada Day contest again last year, well done!

Multi-Operator Multi Transmitter Any Authorized Power Level  
Sponsored by Radioworld

VE7RAC with a score of 338,800

Ops: VA7NF, VE7TI, VE7IO, VA7NLF, VE7ACN and VE7BC

~ 73 Fred VE7IO

## The John Brodie Award

Presented to Howard Ticzon VA7HTZ

I'm pleased to be presenting this Award of Excellence to a relatively new member of SARC.

The award relates to one of many jobs that need doing to keep the club growing and vibrant, but without the glory that comes with other jobs. A few years back another of our members created the current version of our website and it was a good one. It still is one of the best thanks to Hiu Yee VE7YXG who maintained it for a couple years. Last year Hiu announced it was time for someone else to take over, so

we asked for volunteers and Howard Ticzon VA7HTZ stepped up and took over from Hiu.

Howard has done an excellent job since that time. He's responsive to the requests of the Executive, and has shown initiative in making the site more attractive, modern and useful to both members of the club and those who might consider joining based on what they see on our website.

We thank Howard today for his excellent contribution.

~Presented by John Brodie VA7XB



John Brodie presented Howard with his award at the January SARC meeting.





## BC QSO Party 2016

February 6<sup>th</sup> 8am to 8pm Local

### What's New

As a past participant, you are familiar with the BCQP exchange. And you undoubtedly know that the federal electoral districts in BC were redrawn for the recent election. This resulted in six more ridings in BC -- to 42 -- and nearly all ridings were renamed. Consequently, the three-letter combinations used as multipliers for our purposes have been revised. The updated multiplier list for 2016 can be found at [http://www.ordxccc.org/bcqp\\_districts.html](http://www.ordxccc.org/bcqp_districts.html)

BCQP is fully supported by N1MM and N3FJP software. The writers have updated their respective programs with the latest BCQP multiplier list. If you are still using N1MM Classic, however, you will have to edit the section list yourself, as the old version of N1MM is no longer supported. If you have trouble, please contact me. Not that I'm an expert at this, but I did the edit and it worked, so I can give you step-by-step instructions, if need be.

### Tangible Rewards

If you are keen to capture more wallpaper, the 2016 event offers BC stations more chances than ever.

You know about the certificates and the plaque program, which has expanded yet again. But new this year is a top district category to encourage wider participation throughout the province. I hoping to capitalize on the redrawing of our electoral map. Only 10 Qs are needed to qualify but I'm sure you'll exceed that by a long shot.

If you didn't vote in the election and/or are not sure of your new electoral district, go to <http://www.elections.ca/home.aspx>, scroll down a bit and plug your postal code into the space provided. Compare against the BCQP multiplier list to find the appropriate three-letter code.

The plaque program now has nine categories, a net increase of one. (We lost "Top Rookie"). Sponsored categories: Top BC Score, Top YL Score, Top Score Canada Outside BC, Top US Score, Most Electoral Districts Contacted, Top DX, Top Mixed Mode, Top Club\* BC (new) and Top Multi-Op (new).

If you want your score to count toward an aggregate club score, whether that is Orca or a local club, you **MUST** indicate the club name in the Cabrillo header of your log.

### Resources

Rules, tools and helpful hints for BC operators, as well as in-depth event analysis/reports and scores from past years... all available for viewing from links on the BCQP page of the Orca DXCC website at <http://www.ordxccc.org/bcqp.html>

### Novel Approach

Last year, a couple of BC operators got a net-style situation going on 40m and 80m SSB in the last few hours of BCQP to help operators near and far "meet up" for a Q. I've been mentioning this in my mail-outs, and Bob Nash VE3KZ, who writes The Sports Page in TCA, picked up on what I

wrote in the BCQP 2015 Report, and added it to his page in the recently distributed Jan/Feb issue, which might pique the interest of operators in BC and elsewhere to listen for such "net" operations during BCQP 2016.

### Alternate CW Suggested Frequencies

If you are in the mood for CW after 0000z, take a look at the alternate suggested frequencies for CW during the last four hours of BCQP. Last year, the alternate suggested frequencies seemed to mitigate some of the issues caused by NA Sprint. Check the BCQP homepage. These frequencies are quite high up in the respective bands, encroaching on other mode allocations so, if necessary, move up or down a bit to avoid QRming others. I didn't hear of any game-day problems, so everyone must have behaved properly.

~ Rebecca VA7BEC

*"If you are keen to capture more wallpaper, the 2016 event offers BC stations more chances than ever"*



February 2016



## Tech Topics

Adam Foley N1RKW

### Ham Radio Hacks

*Adam Foley N1RKW has been around ham radio most of his life, but didn't smarten up and get his license until 2008. Since then he has gone on to great heights (the 12' high roof of his old house, and the 3rd floor apartment he's in now), and recently decided to take up writing a monthly column about ham radio and electronics, two of the subjects he knows a little bit about (but not much). He lives in Laconia, NH with his incredibly tolerant wife and equally tolerant son.*

Sometimes things don't go according to plan. This month's column was going to be about something else entirely, but after writing nearly two pages of it, I realized that it wasn't going anywhere. I know that writers often have "writer's block", but that wasn't the case. The words were tumbling out of my brain and settling down into neat little rows on the page just as quickly as I could type them. What I was writing conveyed my ideas properly and made good sense.

The problem was that it just plain sucked.

I'll be the first to admit that I'm not the best writer in the world. I know I have received a lot of compliments about these articles, and I appreciate every one of them, but I know that there are far better writers out there (including my own wife, Maria, who writes brilliant novels for young adults). That being said, the article I was writing just wasn't good enough by my own modest standards. It was, for lack of a better word, BOOOOORRRRIING.

So I saved it in a different folder and started over with a blank screen, and tried to figure out what I could write about that wouldn't bore readers to sleep.

That's when it occurred to me: What about ham radio related hacking? To be completely clear, a hacker is someone who makes use of things in ways that they were not designed to be used. A person who turns a dead flat screen TV into a photography light source, for example, could be said to be a hacker. Hackers are, despite many years of articles in the popular press to the contrary, mostly harmless. Most of us (yes, I consider myself to be a hacker, though not a very good one) try to do good things intended to improve our lives and those of the people around us. Here are some

examples of some hacks that I have done to improve things for myself:

#### 1: The Noise Floor Is Too Noisy.

The Signalink USB is a fantastic little device that makes connecting a ham radio to a computer about as simple as it gets. With the exception of setting the jumpers inside the device, it is just about plug and play. However, it has a small design issue that causes the noise floor on the output to be up around 60 to 70 dBm. That's actually not bad for most things like PSK and SSTV, but for small signal modes like WSPR it can cover up some of the fainter signals.

There is a small hack that involves re-routing the power inside the Signalink USB, that has the potential to bring the noise floor down to 100 dBm or lower! However, this hack involves modifying a device that probably cost you over \$100, and will definitely void the warranty. Also, any mistakes could ruin the Signalink USB, which would result in a very bad day for you and possibly an eruption of words you wouldn't want your children to repeat.

The following web site should be required reading for anyone who actually wants to undertake this mod:

[http://www.frenning.dk/OZ1PIF\\_HOMEPAGE/SignalinkUSB-mods.html](http://www.frenning.dk/OZ1PIF_HOMEPAGE/SignalinkUSB-mods.html)

There you will find the details on how to do this, why to do this, and what the mod will do for you. There are also some other mods described there that you may or may not wish to try as well.

For anyone I haven't scared out of doing this yet, here is the short version how-to:

Carefully remove the 1KΩ SMD resistor between the TX and RX potentiometers. Solder a 470Ω resistor between the point



shown at right and the 4.7KΩ SMD resistor next to JP4, as shown in the same image. Simple enough, if you don't accidentally damage the device, which is very easy to do. I strongly suggest that this mod only be undertaken by people with good soldering skills.

## 2: Which Mic Does Mike Want?

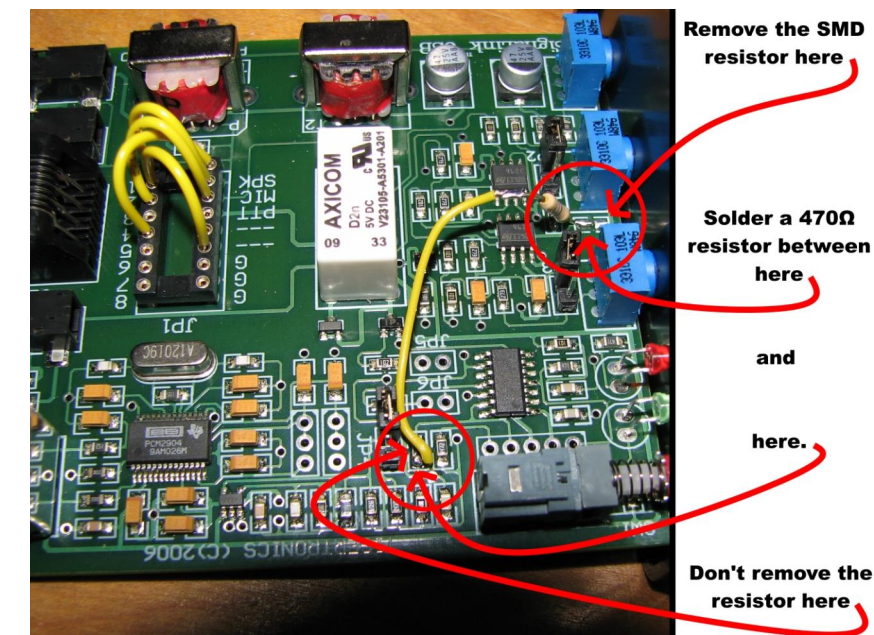
This mod was inspired by my friend Mike K1MIC, who did something similar recently with his D-104 and encouraged me to stop letting mine collect dust.

The Astatic D-104 microphone is an old favorite among hams. In many photos of ham radio benches from years past, the big silver lollipop mic can be seen sitting proudly front and center on the desk. These days a lot of hams are switching to Heil boom mics, but some of us more nostalgic folks prefer the old D-104.

The problem comes when one tries to hook up an old mic to a modern radio. The crystal element in the D-104 gives a very tinny sounding output, and the built-in amplifier is not well suited for being connected to today's more sensitive transceivers.

So if you want to have your lollipop and eat it too, you have to come up with a solution to these problems. My solution? I gutted the thing.

In all seriousness, I carefully removed the existing electronics and mic element from my 1980-ish vintage Astatic D-104 and set them aside. If I ever decide to return it to factory condition, I'll have the parts on hand. I then set about installing a new set of guts which were kindly donated by Yaesu when I bought my FT-857D five years ago. Well, not really donated... The radio came with their MH-31 microphone, but I replaced it right away with an MH-59 remote control mic. This mic is a rather expensive add-on, but well worth it in my eyes, as it opens up many of the features of that great radio that would otherwise have been buried in menus. So anyway, the MH-31 sat wrapped up inside the radio's original box. In all the time I've had the radio, I've never spoken into that mic. Sounds like a good transplant donor to me.



It wasn't difficult removing the old Astatic parts from the big silver sucker, and it was even easier to remove the still beating heart from the MH-31. The Yaesu mic uses a dynamic mic element, so it handles a much broader range of audio frequencies than the Astatic's crystal element, which is designed to carry only the higher vocal frequencies to assist in punching through static (or at least that's what I read online, and we all know that the internet never lies, right?). Using the dynamic element should, in theory anyway, make my voice sound pretty much the same as it usually does on the air, rather than making me sound like I'm talking from the other side of a large, wobbly piece of sheet metal.

Getting that dynamic element to sit where the D-104's original, much larger element sat wasn't difficult, thanks to a couple of bits of foam rubber I had on hand. I used those to fill in the gaps before carefully marking which wire went where and screwing the back cover back on the D-104's head unit.

One quick note for anyone attempting to do this same mod: Do not unscrew the screws on the front of the D-104's head. They are decorative only, and you will probably damage the mic if you try to remove them. The mic head is accessible by removing the 4 screws on the back side of the head unit, not the ones on the front.

## ADAM'S JUNK BOX

A Monthly Column By  
Adam Foley N1RKW



Guest Columnist Adam Foley N1RKW is a member of the Central New Hampshire Amateur Radio Club and contributes a monthly column "Adam's Junk Box" to their newsletter, also called *The Communicator*.

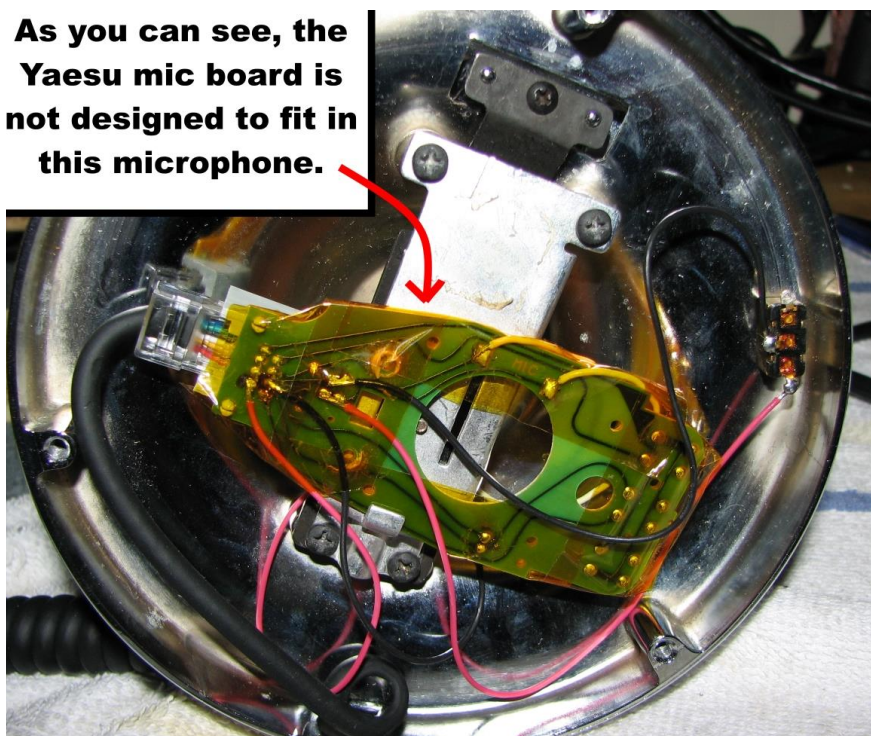
February 2016

*Thanks for taking the time to read this. I'm always open for questions, comments, suggestions, and cups of hot chocolate. I can be reached by email at my call at hotmail dot com. If writing my email address that way actually fools the programs that prowl the internet looking for such things, I'll eat my hat.*

My particular D-104 is the Silver Eagle version, made during the late 70s and early 80s when everything cool had patriotic sounding names and emblems containing eagles in majestic and entirely unnatural poses. It also has both the "chicken choker" PTT, and an extra one on the base which was mechanically attached to the chicken choker on the mic's stem/shaft/whatever-you-want-to-call-it. Since I wanted to keep this functionality, I removed the Yaesu's PTT microswitch and wired it directly to the Astatic's PTT switch. I then wired the tone switch to a small toggle switch that I had made a hole for on the base of the mic, and then stuffed the Yaesu mic's PCB into the base of the D-104 with some more foam and closed it back up.

Here's a picture of the mess I made:

**As you can see, the Yaesu mic board is not designed to fit in this microphone.**



Much to my surprise, it actually worked, and worked well! In fact, I used it to run tonight's weekly 6-meter net.

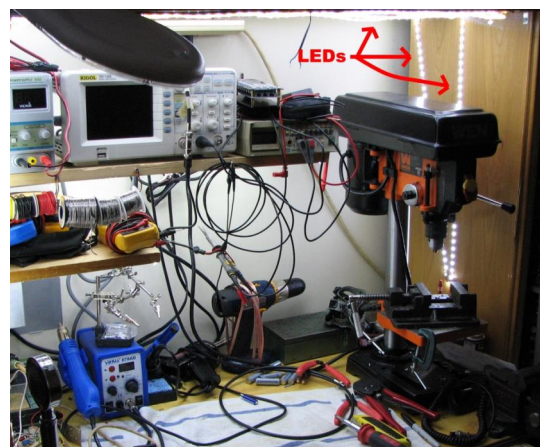
### 3: I Need Some Light Over Here!

I've had a few years now to get a good understanding of what a good ham shack should be: It should be well lit.

We live in interesting times. In years past if you needed something, you would have to get in your car, drive however far away the nearest (insert store type here) was, and hope like mad that they actually had what you needed in stock, before making the long, slow trip home empty handed. These days, we have Amazon.com! One of the things you can find on Amazon.com are rolls of LEDs with sticky-tape on the back. These can be mounted just about anywhere you need light. Furthermore, these LED strips only cost around \$7 - \$10 each. Further-furthermore, they can be powered by 12 volts DC. I can't imagine where a ham might get access to 12v DC power near his/her shack, can you?

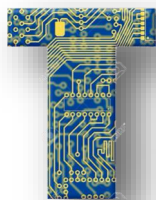
Needless to say, adding two or three of these strings to your shack/bench/workshop area can really light things up for you. Further-further-furthermore, they can be installed in almost any orientation, can be cut into small strips, or left at their full 16 foot (5 meter) length and be wrapped around everything including but not limited to the family pet. Our cat wasn't happy about this, your own results may vary.

Here's a picture of my very messy workbench lit entirely with LED strips:



~ Adam Foley N1RKW  
Reprinted with permission





## Tech Topics

John Schouten VE7TI

### SDR On A Shoestring Budget

If you have a computer (Windows, Mac or Linux) or a compatible Android phone or tablet, you can download free software and, with a compatible low cost device, you can experience Software Defined Radio (SDR). Stan Williams, VA7NF will be demonstrating the high-end of the SDR scale with his Flex 6000 at the February General Meeting but you don't have to spend thousands as there is an SDR radio for every budget.

SDR supports receiving FM radio, AM, SSB and CW broadcasts including HAM radio amateurs, police, air traffic, weather reports, fire department and emergency stations, taxi traffic, audio of analog TV broadcasts, digital broadcasts and many more! Depending on the hardware used, its radio frequency coverage could span between 50 MHz and 2.2 GHz. Turn your computer, Android mobile phone or tablet into an affordable and portable software defined radio scanner. SDR currently demodulates WFM, AM, NFM, USB, LSB, DSB, CWU and CLW signals.

You need:

A USB digital TV (DVB-T) dongle with the **RTL2832U** chip, that is the important criteria. They are used in Europe and other countries on the PAL TV standard to receive TV broadcasts on via computer. They cost less than \$10 ([eBay search](#)) and plug into a computer USB port.

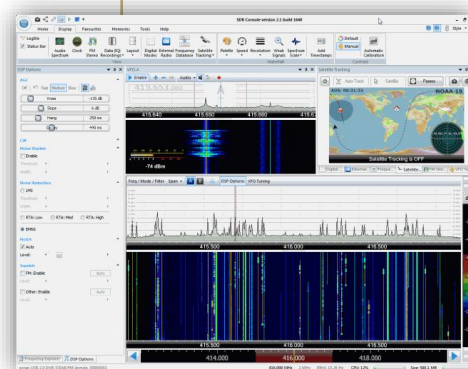
For Android you need a USB OTG (On-The-Go) cable - if you've ever connected a USB thumb drive to your Android device, you already have it. They are extremely cheap ([eBay search](#))

Then you just need to connect the USB dongle to an antenna, and run the free SDR software! It is that simple! Now you can listen to live radio.

There are an abundance of videos on YouTube and you can find free [Windows and Mac](#) software easily by searching free SDR software or following the link above.

*"...with a compatible low cost device, you can experience Software Defined Radio (SDR)"*

*Free SDR radio software*



## Bryan Farrar VE7BFY SK

Bryan passed away peacefully at home January 4<sup>th</sup> with his family by his side. One cannot fully appreciate the love Bryan had for amateur radio, and for all of us whom he enjoyed it with, nor can we comprehend the void that will left behind by his passing. I cannot think of a single VECTOR member that Bryan did not touch in one way or another. Either through helping many of you obtain your licence, equipping you with your first amateur radio, digging something out his mole hole that you needed, or sharing his wealth of knowledge.

Bryan was one of the longest running members of both the Telephone Pioneers Amateur Radio Club and the Vancouver Emergency Community Telecommunications Organization, providing



countless volunteer hours as both a member and Board member of both organizations. It is impossible to take the time to mention the multiple awards Bryan received, or even begin to list the numerous projects Bryan spearheaded, that has undoubtedly left all of us in the Lower mainland, and Province, with a remarkable network of amateur radio equipment, that I'm convinced, one day, we will be very grateful for.

It will be hard to imagine not hearing Bryan check into the weekly net, like he always managed to do, unless he was on one of his many worldly vacations with his loving wife Linda VA7LDA.

73 Old Man

Gary Webb VA7GMW  
VECTOR President

**FARRAR, BRYAN MAURICE**  
**September 16, 1940—January 4, 2016**

*Bryan Farrar, 75, passed away peacefully at home after a short but courageous battle with cancer. He will be greatly missed by all of his family and friends. Bryan was particularly known for his passion and dedication to amateur radio. In lieu of flowers, memorial donations may be made in Bryan's name to either the Canadian Cancer Society, or to a Memorial Park Bench in Fraser River Park.*

February 2016

**Surrey Amateur Radio Club**

# **Industry Canada BASIC AMATEUR RADIO Qualification Course**

## **What Can I Do With My Radio License?**

- Long range communications anywhere for free without commercial infrastructure
- Enhance your personal and your community's preparedness in an emergency
- Use satellite communication to speak around the world, perhaps even to an astronaut
- Use a computer, smartphone or tablet for free worldwide digital communications
- Participate in 'Radio Sports' like contesting and Fox Hunting
- Practice an exciting hobby

**Learn In A Professional Setting**  
Qualified, Experienced Instructors

**Practical Demonstrations**  
Technical Knowledge Not Required

**Fee \$100**  
**Includes Course Manual**

**Surrey Amateur Radio Club**  
For more information on the course visit  
**[www.ve7sar.net](http://www.ve7sar.net)** or contact  
**[sarc@ve7sar.net](mailto:sarc@ve7sar.net)**

**Course starts March 29, 2016**  
**8 consecutive Tuesday evenings**  
**plus one optional Saturday workshop**  
**Surrey Fire Training Centre**  
**14901 64 Avenue, Surrey, BC**

**30% Discount For SARC Family Members**



# February 2016

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2 1915 SEPAR Net 2000 SARC Net	3	4	5	6 0900 Klub Koffee Klatch: Kalmar Family Restau- rant, King George Blvd & 81 <sup>st</sup> Ave.  CONTEST: BC QSO Party (at VA7XB)
7	8	9 1915 SEPAR Net 2000 SARC Net	10 SARC General Meeting	11	12	13 0900 Klub Koffee Klatch: Kalmar Family Restau- rant, King George Blvd & 81 <sup>st</sup> Ave.  CONTEST: CQ WW WPX (RTTY)
14 CONTEST: CQ WW WPX (RTTY)	15	16 1915 SEPAR Net 2000 SARC Net	17	18	19	20 0900 Klub Koffee Klatch: Kalmar Family Restau- rant, King George Blvd & 81 <sup>st</sup> Ave.  CONTEST: ARRL Int DX (CW)
21 CONTEST: ARRL Int DX (CW)	22	23 1915 SEPAR Net 2000 SARC Net	24 SARC Exec Meeting	25	26	27 0900 Klub Koffee Klatch: Kalmar Family Restau- rant, King George Blvd & 81 <sup>st</sup> Ave.  CONTEST: NA QSO Party (RTTY)
28 CONTEST: NA QSO Party (RTTY)	29	<div>For details on all SARC events, go to <a href="http://ve7sar.net">ve7sar.net</a></div> <div>For details on all SEPARS events, go to <a href="http://separ.shutterfly.com/calendar">separ.shutterfly.com/calendar</a></div>			<div><b>NOTE:</b></div> <div>Check our VHF repeater at noon daily for an Echolink net. Local amateurs should check in on the VHF repeater as we try to build a group of</div>	

Contest Details: <http://hornucopia.com/contestcal/contestcal.html>

February 2016

## CLUB EXECUTIVE 2015-2016

### PRESIDENT

Mike Plant VE7AT

### VICE PRESIDENT

Brett Garrett VE7GM  
(Memberships)

### SECRETARY

John Brodie VA7XB

### TREASURER

Scott Hawrelak VE7HA

### DIRECTORS

John Schouten VE7TI  
(Communicator Editor)Stan Williams VA7NF  
(SEPAR Liaison)

Bill Gipps VE7XS

Al Peterson VA7ALZ

## On the Web

[ve7sar.net](http://ve7sar.net)

Between newsletters, watch your e-mail for announcements of events, monthly meetings and training opportunities. These announcements can also be found on our web page, or via:

### Twitter

[@ve7sar](https://twitter.com/ve7sar)

### FaceBook

[SurreyAmateurRadio](https://www.facebook.com/SurreyAmateurRadio)

### Our YouTube Channel

[SurreyARC](https://www.youtube.com/SurreyARC)

### SARC Photo Albums

Web Albums

or

[tinyurl.com/SARCphoto](http://tinyurl.com/SARCphoto)

## QRT

Mike Plant VE7AT—SARC President

### *What is a Round Robin?*

Round robin is an informal yet controlled rag chew, I know that sounds contradictory but its true. As in a net situation we all get an opportunity to tell our story. A round robin should be fair and equal to all involved, real killers of a round robin are participants that insists on holding on to a conversation, going out of turn, constantly talking to one person or worst of all is, the one that has to tell someone how bad their signal is. This will break up the rhythm and cause others to lose interest and move away.

If you have more to discuss with any one in the group, the correct procedure is to move off frequency and continue your conversation, announce you are leaving the round robin and will return when done. It is a good idea to keep notes as you progress and refer to them on the next go around. Another bad habit, is lack of proper repeater etiquette... tailgating or quick keying is a big NO NO!

If you are not leaving a long enough break before keying your rig to talk, you fail to allow all the repeaters in the system to reset and they will time out, when on IRLP this means the other node could be disconnected. On one occasion a UK repeater was timed out by quick keying

operators on our Repeater, the UK stations tried six times to reconnect before being able to get back into the conversation. The SARC repeater users didn't even know the UK side was dumped, quick keying is also preventing others trying to break in for an emergency call or to announce they want to join the round robin. We should regularly take a minute to check for others sitting in the weeds, waiting for a chance to join in.

We MUST let the repeaters drop, to reset their timers, as the more repeaters linked together means the longer we need to let them all reset. Think of them as the links in a chain and allow enough time. So as a rule of thumb please release your PTT long enough to allow the repeater(s) to actually stop transmitting and then count to 5 (one Mississippi, two Mississippi...) before you hit that PTT again.

Finally keep in mind that repeaters have a duty cycle just like your own radios, this means continuous use equals heat build up, if your rig is getting hot, how hot is the repeater?

~ Mike VE7AT

## The 2015 Field Day Video

As has become a bit of a tradition, the annual Field Day video premiered at the Christmas party and is now available to watch on-line.

<http://tinyurl.com/SARC-FD2015> (12 minutes)<http://tinyurl.com/SARC-FD15short> (6 minutes)





## It's February

Stan Williams, VA7NF will be demonstrating the high-end of the Software Defined Radio range with his Flex 6000 at the February General Meeting but you don't have to spend thousands as there is an SDR radio for every budget.

See the article on page 21.



**SARC** hosts an Amateur Radio net each Tuesday evening at 8 PM. Please tune in to the VE7RSC repeater at 147.360 MHz (+600 KHz) Tone=110.9, also accessible on IRLP node 1736 and Echolink node 496228.

On UHF we operate a repeater on 443.775MHz (+5Mhz) Tone=110.9 or IRLP Node 1737.

	SEPARS Net 19:15 Hrs	SARC Net 20:00 Hrs
<b>1<sup>st</sup> Tuesday Standby</b>	Drew VA7DRW Jay VE7KC	Drew VA7DRW Brett VE7GM
<b>2<sup>nd</sup> Tuesday Standby</b>	Dixie VA7DIX Alan VA7BIT	Jinty VA7JMR Sheldon VA7XNL
<b>3<sup>rd</sup> Tuesday Standby</b>	Rob VE7CZV Vacant	Dixie VA7DIX Ralph VA7UB
<b>4<sup>th</sup> Tuesday Standby</b>	Jinty VA7JMR Dixie VA7DIX	John VA7XB Kapila VE7KGK
<b>5<sup>th</sup> Tuesday Standby</b>	Jinty VA7JMR Vacant	Mike VE7AT Brett VE7GM
Want a turn at Net Control? Contact the SARC Net Manager <a href="mailto:ve7at@gmail.com">ve7at@gmail.com</a>		

## Down The Log...

### SARC Monthly Meetings

2<sup>nd</sup> Wed. (Sept-Jun)  
1900 hr at the PREOC  
Emergency Mgmt BC  
14275 96<sup>th</sup> Avenue,  
Surrey, BC

### Weekly Club Coffee

Saturday at 0900 hr  
Kalmar Family Restaurant  
8076 King George Blvd.  
Surrey

### SARC Net

Tuesday at 2000 hr local  
on 147.360 MHz (+)  
Tone=110.9

### SEPARS Net

Tuesday at 1915 hr local  
on 147.360 MHz (+)  
Tone=110.9

### VE7RSC Repeaters

2m: 147.360MHz+  
Tone= 110.9Hz  
IRLP node 1736  
Echolink node 496228

1.2m: 223.960 Mhz -1.6  
Tone=110.9

70cm: 443.775MHz+  
Tone= 110.9Hz  
IRLP node 1737



### We Have A SARC Patch!

These are suitable for sewing on a jacket, cap or your jammies, so you can proudly display your support for the club.

The price is \$4 each or three for \$10 and they can be picked up at a meeting or the weekly Koffee Klatch.

## Burnaby Radio Communications

**Michael J. Wong VE7HMW**  
President/Owner  
Commercial / Amateur Radio

4257 Hastings Street  
Burnaby, B.C. V5C 2J5  
Phone 604-298-5444  
Fax 604-298-5455

Email: [sales@burnabyradio.com](mailto:sales@burnabyradio.com)  
web: [www.burnabyradio.com](http://www.burnabyradio.com)



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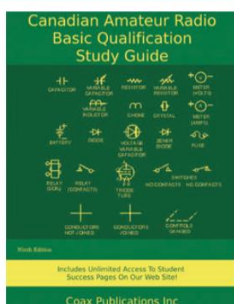
**QUAD BANDS TRANSMISSION** (including SW)  
**EIGHT BANDS RECEPTION** (including AM & SW)

Twin Band/Same Band Simultaneous Reception;  
Duplex Mode (Cross-Band Simultaneous TX&RX) Duplex Cross-Band Repeat;  
Same-Band Repeat on two Combined Radios; 8 groups of Scrambler SOS Function



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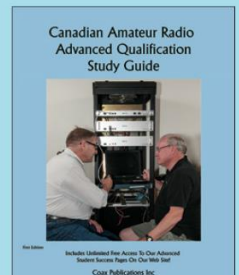
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